

**PATENT APPLICATION**  
**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Kenichiro SATO, et al.

Continuation of Appln. No.: 09/023,801

Group Art Unit: Not yet assigned

Continuation Filed: December 6, 2000

Examiner: Not yet assigned

For: POSITIVE TYPE PHOTORESIST COMPOSITION

**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

**IN THE SPECIFICATION:**

Amend the specification by inserting before the first line the sentence:

-- This is a continuation of Application No. 09/023,801 filed February 13, 1998, the disclosure of which is incorporated herein by reference. --

**IN THE CLAIMS:**

Please cancel claims 1-5 and 10-19.

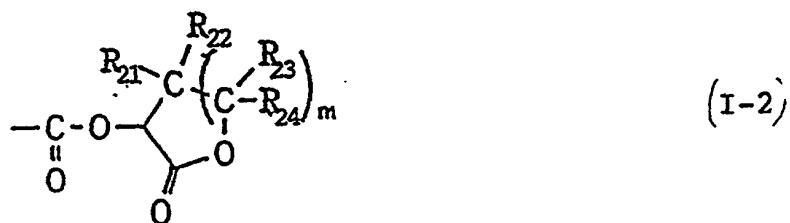
Please amend claims 6-9 as follows:

6. (Amended) A positive photoresist composition comprising a resin which has an ester group represented by the following general formula (I-2) in its molecule and is

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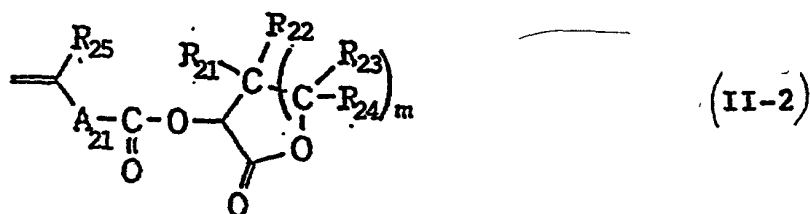
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decomposed by action of an acid to increase solubility of the resin in an alkali solution, and a compound generating an acid by irradiation of an active light ray or radiation:



wherein R<sub>21</sub> to R<sub>24</sub>, which may be the same or different, each represents a hydrogen atom or an alkyl group; and m represents 1 or 2.

7. (Amended) The positive photoresist composition according to claim 6, wherein said resin is a resin which contains repeating structure units corresponding to a monomer represented by the following general formula (II-2) and is decomposed by action of an acid to increase solubility of the resin in an alkali solution:



wherein R<sub>21</sub> to R<sub>24</sub> and m have the same meanings as given in claim 6; R<sub>25</sub> represents a hydrogen atom or a methyl group; and A<sub>21</sub> represents one group selected from the group consisting of a single bond, an alkylene group, a substituted alkylene group, an ether group, a thioether group, a

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carbonyl group, an ester group, an amido group, a sulfonamido group, a urethane group and a urea group, or a combination of two or more of them.

8. (Amended) The positive photoresist composition according to claim 6 or 7, wherein said resin further contains repeating structure units each having an alicyclic hydrocarbon moiety.

9. (Amended) The positive photoresist composition according to claim 6 or 7, wherein said resin further contains repeating structure units each having a group which is decomposed by action of an acid to increase solubility in an alkali developing solution.

Please add the following new claim:

--20. The positive photoresist composition according to claim 8, wherein said resin further contains repeating structure units each having a group which is decomposed by action of an acid to increase solubility of the resin in an alkali developing solution.--

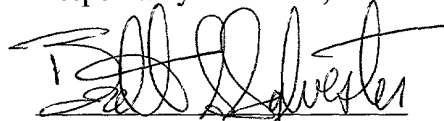
**REMARKS**

Upon entry of this preliminary amendment, which is respectfully requested, claims 6-9 and 20 will be pending. The Examiner of the parent application had indicated that prosecution of claims 6-9 and 20 was going to be suspended due to a potential interference, and he suggested that they be refiled in a continuation application to deal with the potential interference. Applicants have followed the Examiner's suggestion and have filed the present continuation application.

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An action from the office is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brett S. Sylvester", written over a horizontal line.

Brett S. Sylvester

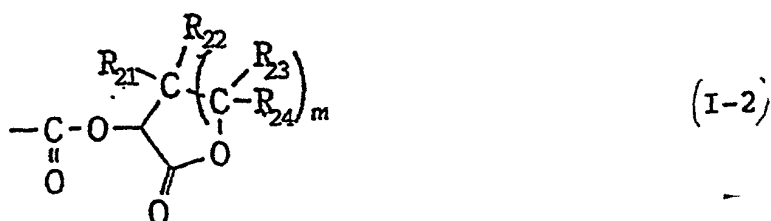
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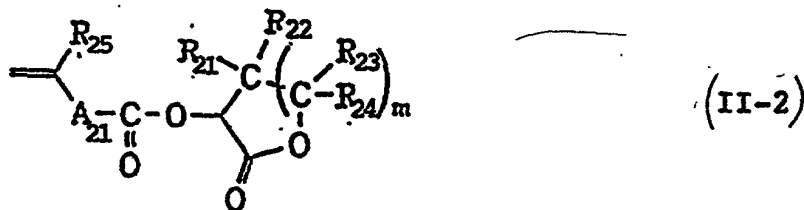
# **APPENDIX** **Marked up version of claims**

6. (Amended) A positive [type] photoresist composition comprising a resin which has an ester group represented by the following general formula (I-2) in its molecule and is decomposed by action of an acid to increase solubility of the resin in an alkali solution, and a compound generating an acid by irradiation of an active light ray or radiation:



wherein R<sub>21</sub> to R<sub>24</sub>, which may be the same or different, each represents a hydrogen atom or an alkyl group; and m represents 1 or 2.

7. (Amended) The positive [type] photoresist composition according to claim 6, wherein said resin is a resin which contains repeating structure units corresponding to a monomer represented by the following general formula (II-2) and is decomposed by action of an acid to increase solubility of the resin in an alkali solution:



wherein R<sub>21</sub> to R<sub>24</sub> and m have the same meanings as given in claim 6; R<sub>25</sub> represents a hydrogen atom or a methyl group; and A<sub>21</sub> represents one group selected from the group consisting of a single bond, an alkylene group, a substituted alkylene group, an ether group, a thioether group, a carbonyl group, an ester group, an amido group, a sulfonamido group, a urethane group and a urea group, or a combination of two or more of them.

8. (Amended) The positive [type] photoresist composition according to claim 6 or 7, wherein said resin further contains repeating structure units each having an alicyclic hydrocarbon moiety.

9. (Amended) The positive [type] photoresist composition according to [any one of claims] claim 6 [to 8] or 7, wherein said resin further contains repeating structure units each having a group which is decomposed by action of an acid to increase solubility in an alkali developing solution.